PATENT APPLICATION TRANSMITTAL LETTER

ATTORNEY'S DOCKET NO.

TO THE COMMISSIONER OF PATENTS AND TRADEMARKS:
Transmitted herewith for filing is the patent application of Ki Il Kim

for MJLTI-FUNCTION PORTABLE CELLULAR PHONE

Enclosed are:

X 5 sheets of drawing.
___ an assignment of the invention to _____
___ a certified copy of a _____ application.
X a verified statement of small entity status.
___ associate power of attorney.

CLAIMS AS FILED

FOR	NUMBER FILED	NUMBER EXTRA	RATE	FEE
TOTAL CLAIMS	-20 =		X $	
INDEPENDENT CLAIMS	- 3 =		X $	
BASIC FEE				$385.00
			TOTAL FILING FEE	$385.00

___ Please charge my Deposit Account No. _____ in the amount of $ _____, $630.00 to cover filing fees and $8.00 to cover recordation of assignment. A duplicate copy of this sheet is enclosed.

___ The Commissioner is hereby authorized to charge any additional fees which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment to Deposit Account No. _____. A duplicate copy of this sheet is enclosed.

X A check in the amount of $ 385.00 to cover the filing fee

___ See copy of Forms PTO-1123 and 1532 enclosed.

April 25, 1997
date

Irving Keschner, Attorney of Record
Reg. No. 24,547

Also enclosed herewith is a Letter (re Disclosure Documents) and a Petition Under 37 C.F.R. 5.25.

PATENT APPLICATION PAPERS

OF

KI IL KIM

FOR: MULTI-FUNCTION PORTABLE CELLULAR PHONE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Ki Il Kim)
Date Executed: April 25, 1997)
MULTI-FUNCTION PORTABLE)
CELLULAR PHONE)

LETTER

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This is to record that Disclosure Documents related to the above-identified application, filed concurrently herewith, have been filed in the Patent and Trademark Office. The Disclosure Documents are identified as follows:

NUMBER	FILING DATE
415871	March 13, 1997
416559	March 13, 1997
416663	March 28, 1997

Respectfully submitted,

Irving Keschner
Attorney for Applicant
Reg. No. 24, 547
April 25, 1997

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Ki Il Kim)
)
Application Executed: April 25, 1997)
)
For: MULTI-FUNCTION PORTABLE)
CELLULAR PHONE)

PETITION UNDER 37 C.F.R. 5.25

FOR RETROACTIVE LICENSE

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

In accordance with the provisions of 37 C.F.R. 5.25, which implements 35 U.S.C. 184, the undersigned petitions the Commissioner of Patents and Trademarks to grant a retroactive license to file the patent application (and/or material contained therein) filed concurrently herewith in the Republic of Korea.

The patent application material was filed in the Republic of Korea on March 7 and March 26, 1997 as Application Serial Nos. 97-4194 and 97-5841, respectively.

A verified declaration from the inventor setting forth the pertinent facts regarding the foreign filing is enclosed herewith.

A check in the amount of $130.00 to cover the petition fee

is also enclosed.

Respectfully submitted,

Irving Keschner
Attorney for Applicant
Reg. No. 24, 547
April 25, 1997

PETITION UNDER 37 C.F.R. 5.25

I Ki Il Kim declare as follows:

1. That I am a citizen of the United States currently residing at 255 S. Grand Avenue, #2004, Los Angeles, California;

2. That I have executed a patent application this date entitled "Multi-"Function Portable Cellular Phone" and filed concurrently herewith;

3. That I filed patent applications in the Republic of Korea on March 7 and March 26, 1997 containing material equivalent to that in the United States patent application, the Korean patent applications being identified as follows:

Serial Nos. 97-4194 and 97-5841

4. That the subject matter contained in the U.S. patent applications contain material which, it is believed, would not be the subject matter of a secrecy order at the time it was filed in Korea.

5. That I have diligently sought to obtain this license after I was informed by my attorney, Irving Keschner, that such a license was required;

6. That I received such information when I sought Mr. Keschner's assistance in preparing the corresponding United States patent application on or about April 23, 1997;

7. That I personally had traveled to Korea on or about March , 1997 to, inter alia, file the patent applications in the Korean Patent Office; that at the time of my travel to Korea I was unaware of the prohibitions of 35 U.S.C. 184;

8. That since Mr. Keschner first informed me of the

requirement that a petition for a retroactive license must be filed, I have authorized him to take the necessary steps to prepare the petition and submit it concurrently with the filing of the United States patent application.

I hereby declare that all statements made herein are of my own knowledge and true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: April 25, 1997

Ki Il Kim

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention provides a conventional portable cellular phone modified to incorporate a security alarm, radio receiver and other functions.

2. Description of the Prior Art

The portable cellular phone has found wide public acceptance since its commercial introduction. The ease in which communications between the user and the call recipient can be accomplished has extended its use in areas not heretofore contemplated. For example, United States Patent No. 5,555,286 to Tendler discloses a cellular phone system in which the cellular phone is utilized for transmitting signals in natural speech, the signals indicating the position of a vessel, vehicle or an individual upon system activation from the cellular phone keyboard or from a remote source. United States Patent No. 5,043,736 to Darnell et al. discloses a device that can be used as a cellular telephone and portable global position system and provides latitude and longitude information to a base unit display; United States Patent No. 5,081,667 to Drori et al, discloses a system for integrating cellular communication systems with vehicle security systems; U.S. Patent No. 5, 515, 043 to

Berard et al, which utilizes a cellular phone handset in a system for tracking the position of a vehicle, and U. S. Patent No. 5,515,419 to Sheffer discloses a system for tracking a portable or mobile phone and include means for generating an emergency signal on detection of an emergency condition and transmitting the emergency signal to a remote monitoring station. The Sheffer system includes a portable phone unit which is similar to a conventional portable phone but which incorporates the hardware or software necessary to generate and transmit the necessary emergency signal should the user push the panic button.

The above patents disclose various forms of position locating/alarm systems utilizing cellular phones and while useful for the funtions they disclose, are beyond the financial resouces of the average consumer. However, the portability of cellular phones and the fact that the phones and the connection service therefor are relatively inexpensive, makes the cellular phone system useful for other, less expensive functions. For example, a cellular phone user may be travelling and want a separate alarm system placed in his/her hotel room. Or the user desires to have a radio receiver associated within the phone housing so that radio programs could be heard when the telephone is not in use. Other functions capable for use with the cellular phone but not currently available include the capture and storage of images and audio signals.

What is thus desired is to provide a multi-function, portable cellular phone modified to incorporate in a first

embodiment an alarm sensor, and an image capture and storage device in the same housing, a second embodiment incorporating an AM/FM radio receiver, the cellular phone, in both embodiments, being activated by keyboard or by voice control, activation of the cellular phone causing the automatic dialing of a pre-coded phone number, such as an emergency service (police) and home.

SUMMARY OF THE PRESENT INVENTION

The present invention provides a multi-function portable cellular phone modified to incorporate features that enhance the utility of the phone, and in particular provides a portable and lightweight security system.

In a first embodiment, the cellular phone is modified to incorporate an alarm, camera (image) and audio capture functions in the same housing. In a second embodiment, the cellular phone is modified to incorporate an alarm, radio, camera and audio capture in the same housing.

Using the cellular phone in the manner described hereinabove provides a relatively inexpensive technique for proving a multi-function device that is portable and relatively inexpensive and includes a security alarm system which provides a local alarm and also an alarm signal to a remote emergency service.

DESCRIPTION OF THE DRAWINGS

For a better understanding of the invention as well as other objects and further features thereof, reference is made to the

following description which is to be read in conjunction with the accompanying drawing wherein:

FIG. 1 is a perspective view of a first embodiment of a portable cellular phone modified in accordance with the teachings of the present invention without a radio receiver;

FIG. 2 is a system block diagram of the modified cellular phone shown in Figure 1 in accordance with the teachings of the present invention;

FIG. 3 is a perspective view of a second embodiment of a portable cellular phone modified in accordance of the present invention with a radio receiver;

FIG. 4 is a system block diagram of the modified cellular phone shown in Figure 3 in accordance with a second embodiment of the present invention;

FIG. 5 illustrates the use of the modified portable cellular phone as an alarm device in a vehicle wheel cover;

FIG. 6 illustrates the use of the modified portable cellular phone as an alarm device on a door; and

FIG. 7 is a simplified block diagram of a single battery source for supplying power for the cellular phone functions.

DESCRIPTION OF THE INVENTION

Referring now to Figure 1, a perspective view of a first embodiment of a cellular phone 8, modified in accordance with the teachings of the present invention is illustrated.

Portable cellular phone 8 having housing 10 is of conventional design and has the standard dialing and receiving

functions with SEND button 9, antenna 11, keypad 12, display 13 microphone 14, and speaker 15. In accordance with the teachings of the present invention, phone 8 is modified to incorporate alarm sensors 16, sound (horn) device 17, a two step camera switch button 18, two audio beeps indicating that an image/camera sensor 19 is on for normal use, a two step alarm switch 20 which, when pressed once in case of an emergency, the alarm and image and recording functions being activated and two beeps being sounded, switch 20 acting as a panic button (symbol 20) when pressed once, a television/personal computer connection output jack 21 for viewing/listening to the stored audio signals and images, phone/radio jack 22, receiver 23 and microphone 24.

As will be explained hereafter in more detail with reference to Figure 2, sensors 16 are adapted to detect movement such as motion, infrared and ultrasonic sensors. This is particularly useful if the phone 8 is mounted on a door 25 in a hotel room for example, as shown in Figure 6, when a user is traveling. In this case, detection of movement triggers sound device 17 via a horn within the cellular phone housing 10 to notify the cellular phone user and/or to scare off potential intruders (panic button 20 can also be depressed as will be described hereinafter). The alarm, in conjunction with a modem built into phone 8, signals remote emergency services, such as the police, using a conventional wireless communication system thereby notifying the service of an emergency situation in the manner described in the aforementioned Sheffer patent.

The ear phone, or receiver, portion 23 enables a user to hear audio alarm signals transmitted by the phone 8 and microphone 24 enables a user to talk through the cellular phone 8 without being limited to the mouthpiece portion of the cellular phone 8 while also functioning as a radio telephone in a vehicle.

Figure 2 is a block diagram of the system shown in Figure 1, the components shown all being mounted within housing 10. The SEND button 9 is configured so that it is triggered when sensors 16 are activated or from the panic button 20 provided on phone 8. Sensors 16 have an arming control 40 associated therewith which is activated when exiting a vehicle or area and is activated by depressing key 20 twice. An indicator can be provided to show that the system has accepted the arming command.

When sensors 16 are triggered, audio storage (capture) 44 and video storage (capture) 46 are initiated to render transmittable replicas of the intrusion sounds and images over the cellular phone 8 to a central office via available wireless communication systems. In this way, the image of the intruder can be reported to the police, and the alarm also verified.

A modem 48 is wired into the external microphone and speaker jack 22 to allow transmission of the captured, or stored, video and audio signals. The audio can be played back directly through microphone input 14 without going through modem 48. The modem 48 can be bypassed for audio, but is necessary for image data. Further, the audio can be maintained as an input after the intrusion sounds and images have been transmitted. Random images

can be transmitted after the initial rendering of the intrusion data. Thus, if the vehicle is stolen, the sound and images can be monitored to get an idea of the whereabouts of the vehicle and if the thief is still towing the car.

As shown in Figures 2 or 4, AM/FM radio receivers can optionally be included for entertainment when the alarm system is not in use. The alarm and radio function components can be mounted on the same printed circuit board within housing 10 or on separate circuit boards.

The intrusion sounds and images are sent when the sensors 16 detect movement of the vehicle (or persons when in a hotel room) but only when switch 20 has been depressed twice (symbol 20) to arm the system or when depressed once to function as a panic key.

The panic mode of key 20 can also be adapted to initiate the capture of video (or pictures), via camera 50 and audio in non-alarm situations when the key is pressed once, the audio signals and images being recorded (stored) for later transmission when SEND button 9 is depressed; if key 20 is pressed twice in succession or maintained depressed for a predetermined period of time, the panic mode will be implemented and the intrusion pictures taken along with sound. Phone 8 is then activated to automatically dial and send the collection of recorded (stored) sounds and images to a remote central office for processing and response as described hereinabove.

A sound device 52 is connected to alarm sensors 16 and is

used in the panic mode.

In accordance with another feature of the present invention, battery pack power source 54 is mounted to housing 10 and provides power to phone 8, alarm sensors 16, radio receiver 60 (Figures 3 and 4), image capture device 46 and camera device 50. Using a single battery source for phone 8 and the added functions allows the modified phone 8 to be reduced in size and manufactured in a more economical manner.

The embodiment shown in Figure 2 and 4 is substantially identical to the embodiment shown in Figures 1 and 3 with the exception that a radio receiver 60 is added. In particular, and referring to Figure 3, housing 10 further includes radio receiver volume control 61, AM/FM switch 62 and radio station control switch 64. Radio receiver 60 can be used when the alarm function is deactivated. In addition, lead 55 connects audio capture 44 to jack 22, allowing a captured conversation to be recorded. Lead 57, also connected to audio capture 44, allows two way conversations to be recorded, whether via telephone conversations between the cellular phone user and a third party or conversations of persons present near phone 8 (similar to a conventional recording device).

Figure 5 shows another use for the modified cellular phone 8. In particular, phone 8 is mounted on the anti-theft wheel cover described in United Patent No. 5,540,067 to provide an additional technique for preventing theft of a vehicle or tracking the vehicle if it is stolen. The teachings of the '067

patent necessary for an understanding of the present invention are incorporated herein by reference.

The present invention thus provides a conventional portable cellular phone modified to incorporate other useful functions relatively inexpensively and which has many practical applications in addition to those described hereinabove.

While the invention has been described with reference to its preferred embodiment, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the true spirit and scope of the invention. In addition, many modifications may be made to adapt a particular situation or material to the teaching of the invention without departing from its essential teachings.

WHAT IS CLAIMED IS:

1. A portable cellular phone having a housing, the improvement comprising an alarm system, a radio receiver and means for storing audio signals and images, said alarm system, radio receiver and storing means being mounted within said housing.

2. The cellular phone of claim 1 wherein said alarm system and said radio receiver is mounted on a single circuit board.

3. The cellular phone of claim 1 wherein said alarm system is mounted on a first circuit board and said radio receiver is mounted on a second circuit board.

4. The cellular phone of claim 1 wherein said radio receiver comprises AM and FM stereo receivers.

5. The cellular phone of claim 1 wherein said alarm system comprises sensors for detecting movement.

6. The cellular phone of claim 1 wherein said alarm system comprises a horn system.

7. A portable cellular phone having a housing, the improvement comprising an alarm system and means for storing audio signals and images, said alarm system and said storage means being mounted within said housing.

8. The cellular phone of claim 1 further including means for automatically dialing a telephone number and transmitting messages when activated.

9. The cellular phone of claim 7 further including means

for automatically dialing a telephone number and transmitting audio signals and stored images when activated.

10. The cellular phone of claim 1 further including battery means associated with said housing, said battery means supplying power to said alarm system, said radio receiver and said audio signal and image storage means.

11. The cellular phone of claim 7 further including battery means associated with said housing, said battery means supplying power to said alarm system and said audio signal and image storage means.

12. The cellular phone of claim 1 wherein said cellular phone has a keypad with a key associated therewith, a first depression of said key causing an alarm signal generated by said alarm system to be transmitted to a remote location, a second depression of said key causing stored audio signals and images to be transmitted to said remote location.

13. The cellular phone of claim 12 wherein said cellular phone has automatic dialers, depression of said two mode key causing said automatic dialers to be activated whereby an alarm signal generated by said alarm system is transmitted to said remote location.

14. The cellular phone of claim 1 wherein said alarm system is selected from the group consisting of infrared, ultrasonic and motion sensors.

15. The cellular phone of claim 7 wherein said alarm system is selected from the group consisting of infrared, ultrasonic and

motion sensors.

16. The cellular phone of claim 1 further including means for enabling the stored audio signals and images to be detected by a device external to said cellular phone.

17. The cellular phone of claim 7 further including means for enabling the stored audio signals and images to be detected by a device external to said cellular phone.

18. The cellular phone of claim 7 wherein said means for storing enables telephone conversations between the cellular phone user and another to be recorded.

19. The cellular phone of claim 7 further including a receptacle formed on said housing, said receptacle enabling a television or personal computer to be coupled to said cellular phone so that the stored images can be viewed.

ABSTRACT OF DISCLOSURE

A conventional portable cellular phone modified such that the phone housing incorporates a security alarm system and other functions. In another embodiment, the portable cellular phone is modified such that the phone housing incorporates a security alarm system, radio receiver and other functions.

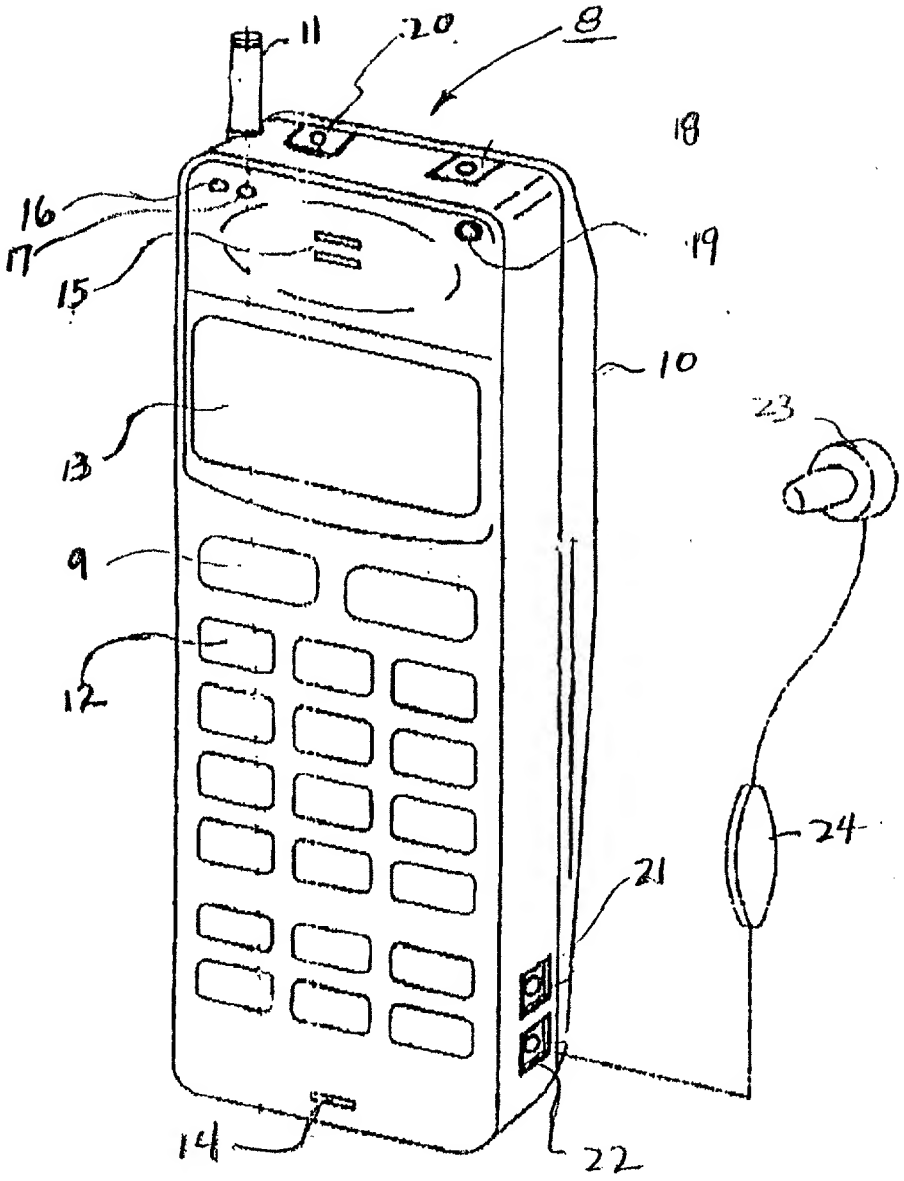


FIG. 1

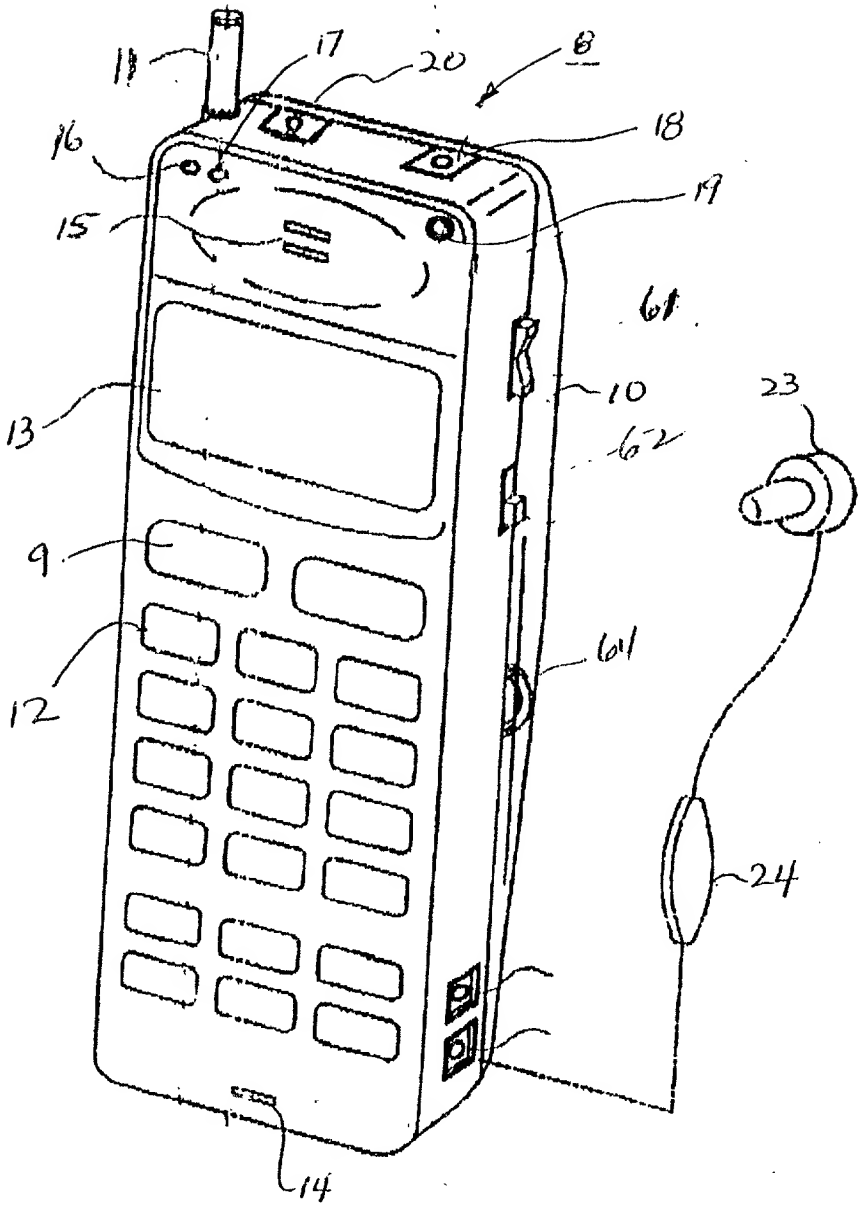


FIG. 3

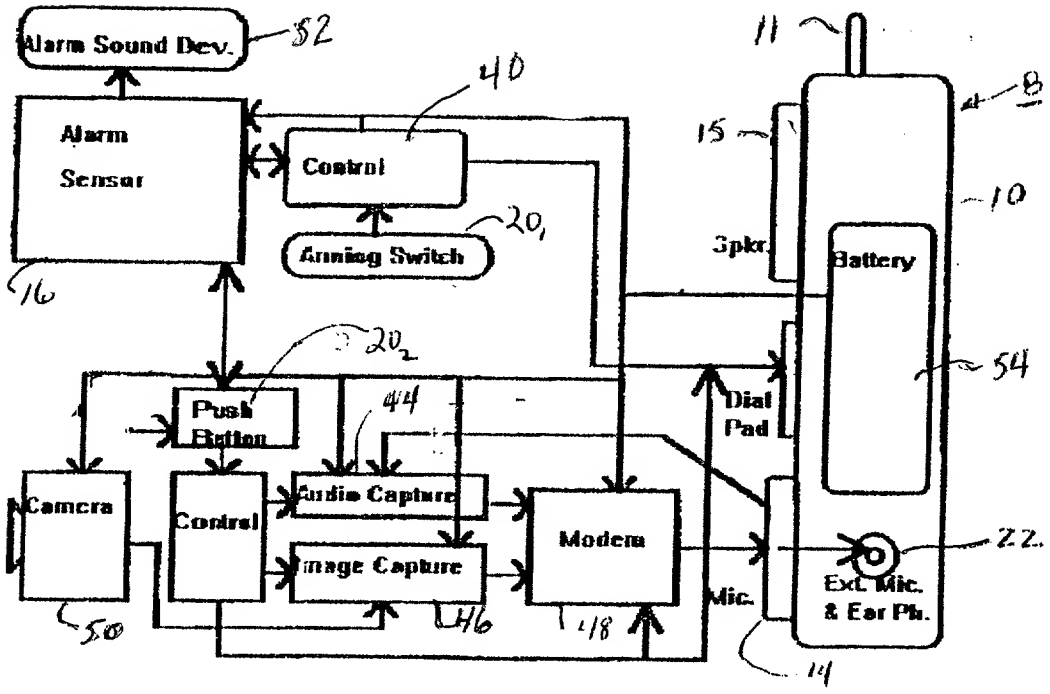
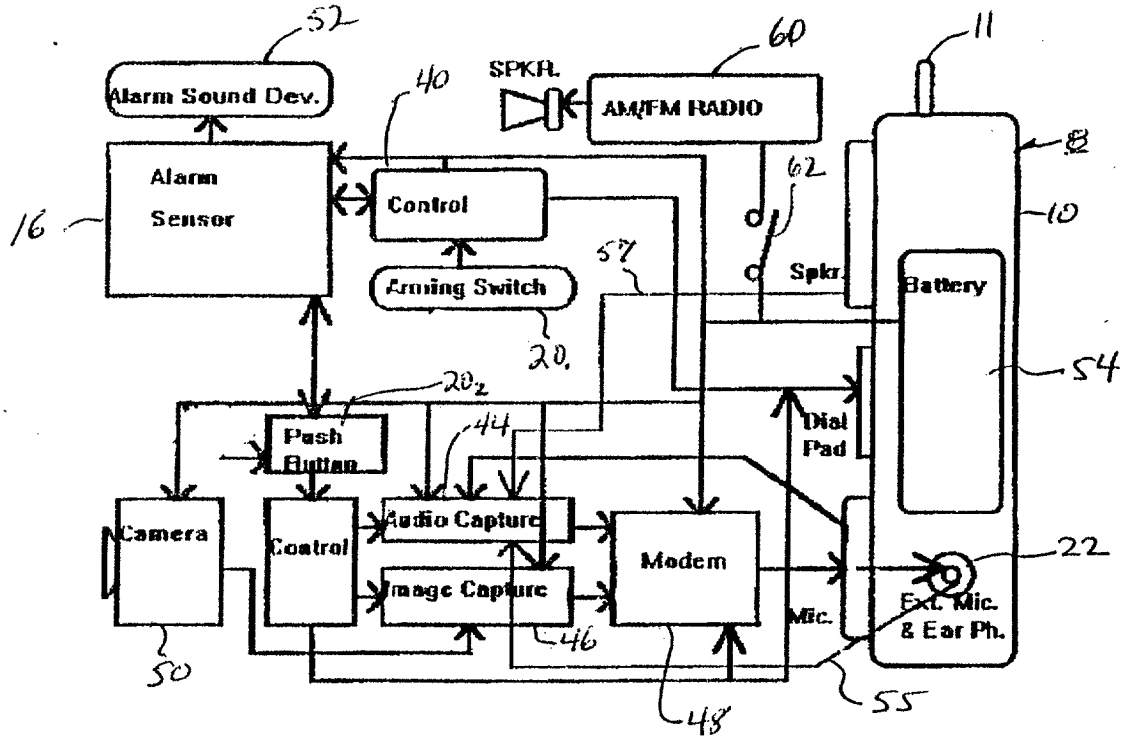

Alarm Sound Dev.
52
40
Alarm
Sensor
Control
Arming Switch
20,
16
20₂
Push
Button
44
Camera
Control
Audio Capture
Image Capture
Modem
50
46
48
Dial
Pad
Mic.
14
11
8
15
Spkr.
10
Battery
54
22
Ext. Mic.
& Ear Ph.

FIG. 2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Alarm Sound Dev.
40
SPKR.
60
AM/FM RADIO
11
8
Alarm
Sensor
16
Control
62
10
Spkr.
57
Arming Switch
20,
Battery
54
20₂
Push
Button
44
Dial
Pad
Camera
Control
Audio Capture
Image Capture
Modem
22
50
46
48
Mic.
Ext. Mic.
& Ear Ph.
55

FIG. 4

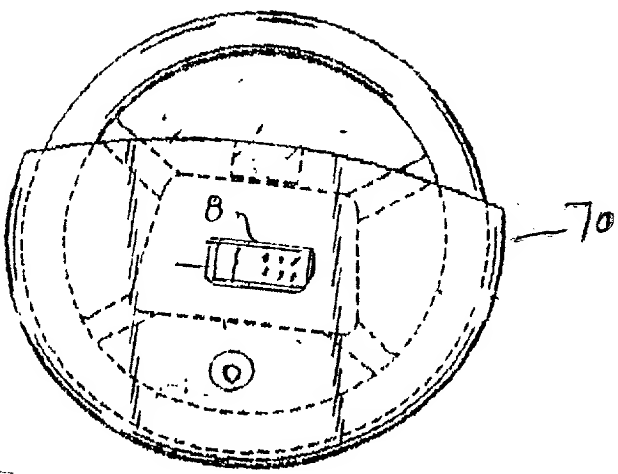

FIG. 5

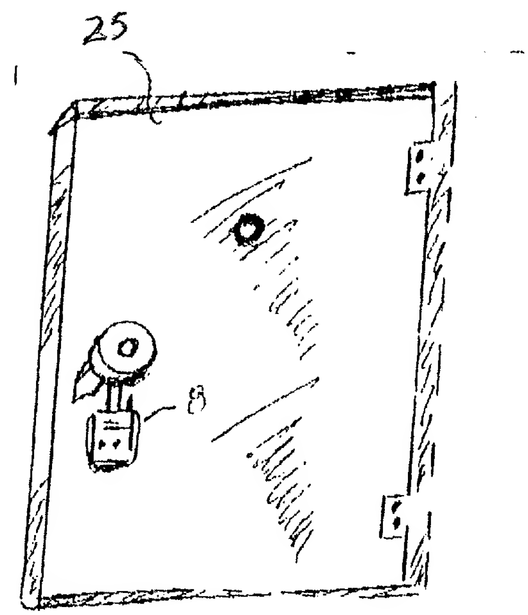

FIG. 6

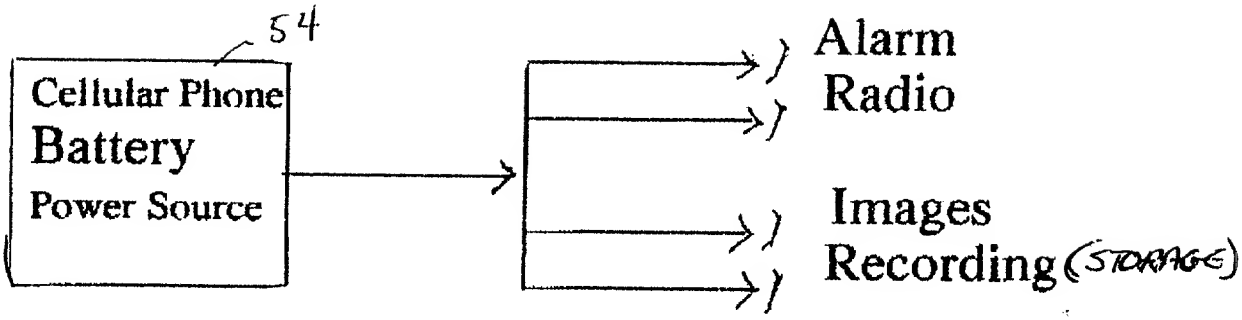
54
Cellular Phone
Battery
Power Source
Alarm
Radio
Images
Recording (STORAGE)

FIG. 7

Declaration and Power of Attorney

for Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

MULTI-FUNCTION PORTABLE CELLULAR PHONE

the specification of which

(check one)

[X] is attached hereto.

[] was filed on _____ as

Application Serial No. _____

and was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

English Language Declaration

Prior Foreign Application(s): Priority Claimed

(Number)	(Country)	(Day/Month/Year Filed)	No	Yes
97-4194	Korea	March 7, 1997	( )	(X)
97-5841	Korea	March 26, 1997	( )	(X)
			( )	( )

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
~~N/A~~		

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

English Language Declaration

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number).

Irving Keschner
Reg. No. 24,547

Send Correspondence to:

Irving Keschner, 21515 Hawthorne Boulevard, Suite 1125,

Torrance, CA 90503

Direct Phone Calls to: (name and telephone number)

Irving Keschner (310) 543-5200

Full name of sole or first inventor
Ki Il Kim

Inventor's signature _____ **Date** April 25, 1997

Residence 255 South Grand Avenue, Suite 2004, Los Angeles, CA 90012

Citizenship United States

Post Office Address 255 South Grand Avenue, Suite 2004, Los Angeles, California 90012

Full name of second joint inventor, if any

Inventor's signature **Date**

Residence

Citizenship

Post Office Address

(Supply similar information and signature for third and subsequent joint inventors.

Applicant or Patentee: Ki Il Kim

Serial or Patent No.: ______

Filed or Issued: ______

Title: Multi-Function Portable Cellular Phone

Attorney's Docket No.: ______

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) & 1.27(b))--INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office regarding the invention entitled Multi-Function Portable Cellular Phone described in:

- [X] the specification filed herewith.
- [ ] application serial number ______, filed ______.
- [ ] patent number ______, issued ______.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:*

- [X] No such person, concern, or organization
- [ ] Persons, concerns or organizations listed below*

* Note: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

NAME ______
ADDRESS ______
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

NAME ______
ADDRESS ______
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

NAME ______
ADDRESS ______
[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Ki Il Kim		
NAME OF INVENTOR	NAME OF INVENTOR	NAME OF INVENTOR
[signature]		
Signature of inventor	Signature of inventor	Signature of inventor
April 25, 1997		
Date	Date	Date